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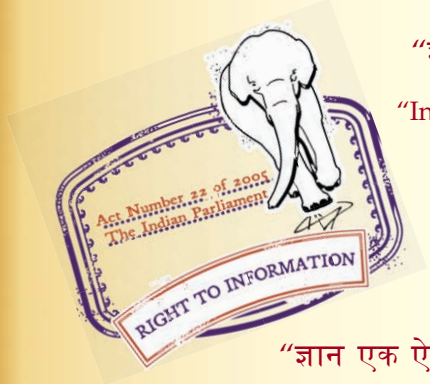

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अग्नि शमन उपकरणों से सम्बद्ध परिभाषिक शब्दावली

(पहला पुनरीक्षण)

Indian Standard

FIRE FIGHTING EQUIPMENT — GLOSSARY OF TERMS

(First Revision)

ICS 01.040.13; 3.220.10

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

August 2004

Price Group 5

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Fire Fighting Sectional Committee had been approved by the Civil Engineering Division Council.

A series of standards covering different fire fighting equipment and appliances have been published which include a large number of terms relating to fire fighting equipment and appliances. The extensive use of some of the terms and the need to eliminate ambiguity and misunderstanding in their interpretation has necessitated the preparation of this glossary. This standard was first published in 1975. Since the development of fire fighting equipment and appliances is a continuing process, in this revision some additional new terms have also been included. Further, the existing definitions have been reviewed and suitably modified, wherever necessary, to keep them in conformity with the modern application technologies. This standard was first formulated in 1975 and now revised by incorporating various new definitions for the terms used in other standards which have been formulated for various fire fighting equipments, subsequent to the publication of the first version of this standard.

A separate standard (IS 8757 : 1999 'Glossary of terms associated with fire safety') exists giving definitions of terms associated with fire safety.

In the formulation of this standard due weightage has been given to international co-ordination among the standards and practices prevailing in different countries in addition to relating it to the practices in the field in this country.

Indian Standard

FIRE FIGHTING EQUIPMENT — GLOSSARY OF TERMS

(First Revision)

1 SCOPE

This standard covers definitions of terms relating to the fire fighting equipment and appliances.

2 TERMINOLOGY

2.1 General

2.1.1 *Adaptors* — Fittings made for the purpose of connecting suction hoses and/or delivery hoses, or hose-reels, either male to male, or female to female, of the same type of coupling, or two different types of couplings.

2.1.1.1 *Delivery hose adaptor* — Fitting used for connecting lengths of hose with different types or sizes of couplings.

2.1.1.2 *Suction hose adaptor* — Fitting used to connect suction hose to hydrant to delivery hose or to suction hose of different diameter.

2.1.1.3 *Hose-reel adaptor* — Fitting used for connecting hose-reel tubing direct to a hydrant or to a length of delivery hose.

2.1.2 *Applicator* — An extension tube to carry a spray nozzle to enable an operator to apply the spray to otherwise inaccessible places or greater heights.

2.1.2.1 *Extension applicator* — A longer tube which can be extended telescopically to a greater length/height up to about 2 m or more to carry a spray nozzle to enable an operator to apply the spray. They are commonly used for tackling aircraft engine fires with gaseous fire extinguishing agents.

2.1.3 *Automatic Escape* — It is a device for lowering persons or self from a height. It consists essentially of a steel cable covered with cotton or canvas belt braid and fitted at each end with a webbing sling, which is tightened as required by means of a metal clip. Speed is automatically controlled by a breaking mechanism according to pre-determined speed varying from 60 to 120 cm/s.

2.1.4 *Axes*

2.1.4.1 *Large axe* — Sometimes known as felling axe used for breaking in or for cutting away heavy timber etc.

2.1.4.2 *Fireman's axe* — A small axe, usually carried in a pouch attached to fireman's belt, or sometimes in appliances also. There are two types : one with a wooden handle, and the other an insulated steel handle, for fire brigade use.

2.1.5 *Basement Spray* — Connected to a branch in place of the nozzle for use in basements, ship holds or other lower level inaccessible areas where an all-round cooling effect is desired.

2.1.6 *Basket Strainer* — It is made of cane, essentially cylindrical in shape with holes, and bigger in size than the metal strainer. It is used over metal strainer to prevent any foreign body entering the pump and is secured with canvas piece with strips.

2.1.7 *Fire Bell* — A sound-emitting metal device, operated by striking manually or electrically. It is used on fire engines for giving alarm in case of turnouts.

2.1.8 *Blank Cap* — A plug or cover which is attached to a delivery outlet or suction inlet when not in use. It consists of a metal casting blanked off at one end with a male or female coupling connection at the other. Also used to protect valves/threads or other equipment, for example, on B.A. cylinders or other cylinders.

2.1.9 *Chain Pulley Blocks (Blocks and Tackle)* — A block is a portable pulley, made of wood, metal or wood and metal, through which a rope of chain passes for lifting/lowering heavy items. They may be of various types — single block, double block or triple block, depending on the number of sheaves or wheels over which the rope runs (*see* 'Tackle').

2.1.10 *Blower/Exhauster (Smoke)* — A machine which blows fresh air exhausts smoke from smoke logged room/area.

2.1.11 *Branch* — A tapering metal fitting employed at the end of a line of hose between the delivery coupling and the nozzle, in order to increase the velocity of the fluid (water).

2.1.11.1 *Diffuser branch* — A branch which can give a jet or spray of variable size which can be shut off at will.

2.1.11.2 *Extended branch* — A longer branch designed for specialized use on smouldering fires inside coal and haystacks. They may be up to 2 m length with a pointed head with a number of small holes for injecting water into the stacks.

2.1.11.3 *Goose neck branch* — It consists of a short length of pipe of uniform bore throughout curved in a semi-circle and fitted with a coupling at one end for attachment to a line of hose is place of a branch.

2.1.11.4 *Hand-controlled branch* — A branch which can be adjusted to give a jet or a spray or both, each being independently controllable by the branchman. It can be completely shut-off also.

2.1.11.5 *Hose-reel branch* — Used with hose-reels. They may be either the simple type for jet only, or dual-purpose type for jet and spray.

2.1.11.6 *Branch holder* — Any device for taking part of the weight and reaction of a branch at work.

2.1.11.7 *Branch radial* — Branch designed to facilitate the handling of larger jets that cannot be controlled by branchman alone, and usually used with branch holders. Not commonly used now.

2.1.11.8 *Revolving branch* — A collecting breeching to the outlet of which is connected a casting which revolves on ball bearings and carries two branches diametrically opposed. It is rotated by the back pressure of water passing through two outlets placed opposite and slanting to the casting. In the modern version, it is designed as a revolving head (revolving nozzle) with about 12 inclined jet orifices set for rotation on ball bearings, which is attached to a metal body (branch like) with a male instantaneous coupling for connecting to delivery hose.

2.1.11.9 *Short branch* — It is the metal pipe portion of the branch pipe or branch with a male instantaneous coupling at one end for connection to a female instantaneous coupling and outlet threaded end for connection to the nozzle.

2.1.11.10 *Stream-form branch* — A short branch with internal cylindrical tube with guide vanes to reduce turbulence in the water and produce a more solid jet.

2.1.12 *Breathing Apparatus* — An apparatus provided with its own supply of breathing air or oxygen to enable the wearer to work in an atmosphere which would not otherwise support life.

2.1.13 *Breeching* — Breechings are hose fittings with different types of inlets and outlets used either for uniting two lines of hose into one, or dividing one line of hose into two.

2.1.13.1 *Collecting breeching* — A fitting used to join two lines of hose to form one. Sometimes known as a 'two-into-one breeching'. It has normally two male instantaneous coupling inlets and one female instantaneous coupling outlet.

2.1.13.2 *Control breeching* — A breeching fitted with a valve or valves to shut off the flow to one or both lines.

2.1.13.3 *Dividing breeching* — A fitting used to divide one line of hose into two. Sometimes known as a 'one-into-two breeching'.

NOTE — If this is fitted with a valve to control the flow of water it is known as a 'control dividing breeching'.

2.1.13.4 *Radial breeching* — A collecting breeching, fitted with a non-return valve in each leg and used in conjunction with a radial branch.

2.1.14 *Fire Bucket* — Usually buckets having round bottom and of 9 l capacity.

2.1.15 *Ceiling Hook* — A wooden or steel pole usually of 3 m length, having at the top of steel point with a spur at right angles, the head with the point and the spur being about 35 to 40 cm long.

2.1.16 *Collar Pipe* — A piece of equipment for use at smoky fires in basements, collars, and ship's holds. It is connected to delivery hose at one end and with a swivelling nozzle attached to a revolving base at the either end. When charged, the nozzle can be elevated, depressed or made to rotate as desired by a control handle at the top.

2.1.17 *Chimney Rods* — Jointed rods to which the tubing of a stirrup pump can be secured for dealing with chimney fires.

2.1.18 *Collecting Head* — A metal casting having on one side a number of inlets (two, three or four) according to the capacity of pump, fitted with standard male instantaneous delivery hose couplings, and on other side a single outlet fitted with a standard female screw type suction hose coupling for connection to the pump inlet. Each inlet on a collecting head is fitted with a non-return valve. Also known as Suction Collecting Head.

2.1.19 *Conical Strainer* — A removable wire strainer fitted in the suction inlet of pump.

2.1.20 *Suction Hose Coupling* — A round-thread screwed coupling used for joining two suction hoses.

2.1.21 *Chemical Incident Control Unit* — An appliance designed and equipped to attend chemical incidents.

2.1.22 *Protection Suit (Chemical)* — A one-piece garment which, when worn with self-contained or airline breathing apparatus, gives protection against

hazardous substances.

2.1.23 *Control Van* — A vehicle equipped as a mobile control room for use by the officer-in-charge at large incidents, usually equipped with radio and sometimes, field telephones. Normally identified by red and white chequered markings.

2.1.24 *Crowbar* — A steel bar about 3 ft, in length with a chisel point at one end and a notch at the other.

2.1.25 *Cutters* — Cutters of various types are used in fire service for cutting metal bolts, padlocks hasps, metal obstacles, etc, for rescue and fire-fighting operations. Bolt cutters and shears are examples.

2.1.26 *Dam*

2.1.26.1 *Collapsible dam* — A container, usually portable, for storage of water from which fire fighting pumps can operate.

2.1.26.2 *Portable dam, non-collapsible* — Made throughout of canvas/plastic with self-supporting walls, usually stiffened with bamboo/light weight canes.

2.1.26.3 *Scaffolding dam* — A canvas/plastic container supported by a rapidly assembled tubular metal frame.

2.1.27 *Delivery Head* — A fitting used principally on fire boats by which water from the pump or pumps is made to feed a number of hose lines simultaneously. Each outlet is controlled by a valve.

2.1.28 *Diffuser Adaptor* — A fitting attached between the branch and nozzle of a deluge set or radial branch which breaks up the stream to a heavy spray or mist.

2.1.29 *Door Breaker* — A device for breaking in a door, or forcing it off its hinges to effect an entry.

2.1.30 *Dosimeter* — A small portable instrument used for detecting the total amount of gamma radiation received by the wearer.

2.1.31 *Drill Tower* — A tower built in fire station premises, either with steel sections or masonry, for the purpose of providing facilities to the fire service personnel to carry out practice drills and for drying the hoses. The height varies from 15 to 18 m according to the size of the fire station.

2.1.32 *Ejector Pump* — A portable jet pump designed for removing water from depths beyond the maximum practical lift of pumps and/or in confined spaces. It is operated by water delivered from a pump through standard delivery hose.

2.1.33 *Elbow-for-nozzle* — A metal attachment which can be fitted between the branch and the nozzle to enable a jet of water to be delivered at right angles to the branch.

2.1.34 *Electric Power Tools* — Electrically operated hand tools of various kinds, such as drills and saws, which are usually carried on Emergency Tenders.

2.1.35 *Emergency Tender* — An appliance carrying specialized equipment, such as cutting and lighting equipment, breathing apparatus, generators, flood lights, various rescue tools, etc, for use at special services incidents.

2.1.36 *Expander* — A tool for fitting couplings to rubber-lined hose.

2.1.37 *Heavy Duty Pump* — An extra heavy pump of capacity 5 000-1 100 lpm. The capacity may vary from 4 000 to 4 500 lpm also, mounted on a self-propelled chassis, in barges, on fire beats or as a stationary pump, distinguishable by having six deliveries.

2.1.38 *False Spindle* — A device to make up the loose fitting of hydrant key, generally known as a false spindle. It is used on the squared top of the hydrant spindle.

2.1.39 *Fire-Boat* — A vessel/boat with pumps designed for fire-fighting and propelled by its own engines.

2.1.40 *Fire Engine* — A self-propelled appliance equipped with necessary accessories required for fire fighting.

2.1.41 *First-Aid Box* — The medical first-aid box carried on appliances.

2.1.42 *Fire Beater* — A wooden or bamboo approx 1.5 to 2 m long, at one end of which a piece of reinforced canvas (central steel wire fabric covered on both sides by canvas fabric pieces) is fitted. Used for beating out grass and bush fires.

2.1.43 *Fog-Nozzle* — A nozzle in which fog (fine mist) or jet is produced by firemen. It has also hand-control device.

2.1.44 *Gallows* — Fitting at the forward end of a fire tender, etc, to take the weight of the head of an escape or other ladder. This is also known as headrest.

2.1.45 *Gantry* — A fitting at the rear of an appliance to carry a ladder.

2.1.46 *Gas-Tight Chemical Protection Suit* — A one piece garment which, when worn with B.A. set, gives a high degree of protection against hazardous/harmful liquids, particles and gaseous or vapour contaminants.

2.1.47 *Gooseneck* — A 'U' shaped short length of pipe fitted with a coupling at one end for attachment to a line of hose for filling dams.

2.1.48 *Stirrup Pump* — A small pump work manually from buckets of water which delivers from 6.5 to 13.5 lpm.

2.1.49 *Hay Knife* — It consists of curved or saw-edged type blade, mounted on a shaft with cranked handle.

2.1.50 *Helmets* — A head and neck protective headwear to safeguard against injuries, used by industrial workers, scooterists, firemen and civil defence staff.

2.1.51 *Hamaphrodite Coupling* — A type of interlocking coupling for delivery hose normally encountered only at docks and harbours and on board ships. Both the interconnecting couplings are identical

2.1.52 *Hook Belt* — A specially designed belt for use with a hook ladder. A special type is also used with Turn-Table Ladders. Sometimes known as 'Pompier Belt' also.

2.1.53 *Hose Bracket* — A rope or webbing sling used for securing hose on a ladder, or for making fast a line, or for carrying a charged length.

2.1.54 *Hose Binding Machine* — A machine used for binding the coupling with hoses.

2.1.55 *Hose Bandages* — This item is also used like hose bandages for temporarily covering the holes in hose thereby preventing leakage and bursting of hose. Leather gaiters fitted with straps and buckles are also available.

2.1.56 *Hose Clamps* — The clamps made of canvas with steel fittings used for charged hoses.

2.1.57 *Hose Ramp* — A device to enable vehicles to run over delivery hose without damaging.

2.1.58 *Hose Reel* — It is made of rubber tubing with fabric and steel wire reinforcement used for fighting fires in initial stages. It is also called 'First-Aid Hose Reel'.

2.1.59 *Hose-Reel Coupling* — Both screwed and hermaphrodite types of coupling are used with hose-reel hose.

2.1.60 *Hose Sling* — A rope or webbing sling used for the same purpose as a hose bracket.

2.1.61 *Hose Strap* — A strap used for securing a length of hose when it is rolled.

2.1.62 *Suction Hose* — It is used on the suction side of the pump, where water flowing is at pressures either above or below that of atmosphere. It is specially constructed to withstand external pressure. Normally referred to simply as suction.

2.1.63 *Hydraulic Platform* — An appliance carrying two hydraulically operated booms with cage attached at the upper end. Large sizes have an additional short boom from the upper main boom. The booms can be operated either from the turntable or from the cage and can be rotated through 360°. The cage is fitted with a monitor and can also be used for rescue purposes. The extended height ranges from 25 to 50 m or more.

2.1.64 *Ladders*

2.1.64.1 *Extension ladders* — Ladders in two sections (one main and one extending section) extended by means of a rope/line. They may be in sizes, namely, 4.5 m, 7.5 m or 10.5 m, when fully extended. They may be of wood (as earlier) or of aluminium.

2.1.64.2 *Extension ladder (with jacks)* — A three-section extension ladder with jacks, plumbing gear and supporting props.

2.1.64.3 *Turntable ladder (TTL)* — A special self-supporting and power operated extension ladder, mounted on turntable the whole ladder assembly being mounted on a self-propelled chassis. It consists of a main ladder with 3 or 4 extensions and can be extended telescopically to about 30.5 m. It is operated either mechanically or hydraulically and can be rotated through a complete circle. It is usually fitted with a monitor and a rescue cage at the head of the ladder. The mechanically operated TTLs have been discontinued.

2.1.65 *Lines* — These form an essential part of fire brigade equipment. There is hardly any operation in fire fighting which does not call for the use of a line of one type of another. These are made from ropes which are constructed out of natural or man-made fibres.

2.1.65.1 *Belt line* — A small diameter line carried on the belt, and used for lashing branches sealing ladders etc. Sometimes known as pocket line. It is usually about 12 ft (3.66 m) long.

2.1.65.2 *Bobbin line* — A line about 40 m in length wound on a bobbin and carried in a pouch on a type of safety belt. Used for hauling up small gear. May also be used as a guide line.

2.1.65.3 *Grass line* — A line made of coir or synthetic fibre which will float on water. Used as an endless ship on fireboats.

2.1.65.4 *Guide line* — A line 60 m long used in certain circumstances to guide fire fighter in and out of a building when B.A. sets are worn.

2.1.65.5 *Guy line*

a) A line (usually 40 m long) attached to a TTL to assist in maintaining stability in high winds.

b) A line bent on to an object, for example, rescue sling, stretcher or ladder, to keep it clear of obstructions which being lowered. May be formed from the lowering line itself by making the 'chair knot' or 'bowline on the bight' in the middle of the line.

2.1.65.6 *Long line* — A 16 mm diameter general purpose line, 30 m long.

2.1.65.7 *Lowering line* — A 16 mm diameter synthetic line 40 m long used for rescue and may have two legs one of which is spliced in 1.5 m from one end of the line. Each leg is fitted with a running eye.

2.1.65.8 *Personal line* — A line up to 6 m long, secured at one end to a B.A. set and fitted at the other end with a snap hook for attaching to a guide line when B.A. is worn. This line can be used at its full extent (6 m) for searching off a guide line or it may be used short (1.25 m) for traversing a guide line.

2.1.65.9 *Pocket line* — A small diameter line carried in a fireman's uniform pocket and used for lashing branches, etc.

2.1.65.10 *Rescue line* — A special 16 mm diameter synthetic line (usually 70 m long) used for rescue work with TTLs or other extension ladders.

2.1.65.11 *Short line* — A 16 mm diameter general purpose line, 15 m long.

2.1.65.12 *Tail line* — A line not more than 6 m long permanently attached to a TTL rescue sling. Used to prevent undue swinging of a person being rescued when the TTL is trained away from the building.

2.1.66 *Pad Lock Remover*

A lever fitted with slots in which a padlock is inserted. It is used to remove a padlock when affecting an entry.

2.1.67 *Portable Pump*

A self-contained portable pumping unit.

2.1.68 *Power Take Off (PTO)* — This is a device used for diverting power from a Fire Tenders road engine for driving a built-in fire fighting pump in the appliance. Similar devices are used to drive the hydraulic pumps with power TTLs and Hydraulic Platforms. There are several types of PTO for driving fire pumps like: (i) from the gear box, (ii) from the drive shaft to the gear box, (iii) from a transfer box.

2.1.69 *Pump*

A mechanical means of imparting energy to water. An essential equipment required for fire-fighting purposes, either carried manually (portable), mounted on trailer (Trailer fire pump) or mounted (built-in) on fire appliances (Fire tenders, Water Tenders, etc).

2.1.70 *Pumping Appliance (Fire Tender, Water Tender, Etc)* — A self-propelled appliance having a built-in pump carries an extension ladder and hose-reel equipment with a water tank (*see* **2.1.37**).

2.1.71 *Fire Engine* — A self-propelled appliance having a built-in pump with a minimum capacity of 2 270 lpm, carries a 13.5 m ladder and has a water tank capacity of approximately 1 370 l.

2.1.72 *Rescue Sling* — A special sling used for lowering people. It has two props connected to a steel ring by which it is attached to a TTL rescue line. Sometimes used as an alternative to spliced legs on a lowering line.

2.1.73 *Resuscitation Apparatus* — Apparatus for supplying oxygen or a mixture of oxygen and air to a person needing artificial respiration.

2.1.74 *Rubber Gloves* — Gloves tested to 25 000 V for use where live electrical equipment are involved.

2.1.75 *Safety Belt* — A special belt with a swivel type hook for use with TTLs.

2.1.76 *Safety Device* — A mechanical device incorporating a line and a belt. The device must be attached to the head of TTL or hydraulic platform (HP) or to the anchorage of drill tower.

2.1.77 *Safety Device Belt* — The belt attached to the line of a safety device which must be worn by the fire fighter being carried down.

2.1.78 *Self-Contained Breathing Apparatus (SCBA)* — Apparatus which is provided with its own supply of breathing air.

2.1.79 *Self-Propelled Pump* — An appliance with a pump mounted on it. The pump may be fitted with its own power unit or be operated by a PTO from the road engine.

2.1.80 *Steel-Shod Lever* — A large wooden lever, steel shod at one end, for lifting heavy objects and forcing doors, etc.

2.1.81 *Strainers* — A device used to keep out unwanted foreign bodies from the water being sucked into the pump.

2.1.81.1 *Basket strainer* — It is used over the suction strainer to prevent entry of dirt and leaves, etc. The canvas part is known as the 'skirt'.

2.1.81.2 *Conical strainer* — A removable wire strainer fitted in the suction inlet of the pump.

2.1.81.3 *Slipper strainer* — A low-level suction strainer facilitating pumping from shallow water.

Water can only enter via the bottom of the strainer which stands on four short legs.

2.1.81.4 *Suction strainer* — A metal strainer connected to the end of suction hose to prevent entry into the suction of objects liable to choke or damage the pump.

2.1.82 *Suction*

2.1.82.1 *Hard suction* — Suction hose constructed to withstand external pressure without collapsing.

2.1.82.2 *Soft suction* — Delivery type hose used to connect a pump to a source of supply under pressure greater than atmospheric.

2.1.82.3 *Suction crutch* — A device for taking the weight of a pump suction used in conjunction with portable dams.

2.1.82.4 *Suction reduction piece* — A short length of suction of smaller diameter than the main suction fitted with a hose coupling at one end for attachment to the standpipe head and a female suction coupling at the other end for union with the main suction hose or the pump inlet.

2.1.82.5 *Suction wrench* — Used to tighten up the joints on the suction.

2.1.83 *Trailer Fire Pump* — A pump mounted on a two-wheeled chassis which may be towed behind an appliances or man-handled. There are two main types: light and large.

2.2 Extinguishers

2.2.1 *Fire Extinguishers* — Portable items of fire fighting equipment containing a fire extinguishing medium which is expelled by internal pressure, either stored or chemically induced, or by the action of a pressurised gas cartridge. Larger models may be mounted on a simple two-wheel chassis/frame which is moved manually to the fire.

2.2.2 *BCF Extinguisher* — An extinguisher, charged with bromochlorodifluoromethane (Halon 1211) under pressure, which is operated by piercing a sealed disc. These are under phase-out.

2.2.3 *Carbon Dioxide (CO_2) Extinguisher* — An extinguisher charged with carbon dioxide under pressure which is operated by piercing a sealed disc/ operating a wheel valve/operating a squeeze-grip type valve.

2.2.4 *Water Type (Gas Cartridge) Extinguisher* — A hand operated extinguisher charged with water in which the contents are ejected by pressure generated by the release of carbon dioxide from a cartridge of compressed gas contained in the extinguisher. The capacity of the portable type is 9 l.

2.2.5 *Dry Powder Extinguisher* — A hand operated extinguisher containing finely powdered chemicals which are expelled from the extinguisher by means of an inert gas, contained either in a compressed gas cartridge or as stored pressure in the body of the extinguisher. The bulk of the chemical contents is usually bicarbonate of soda for conventional type of dry powder extinguisher. For other types the contents may be mono-ammonium phosphate (ABC powder) based, potassium bicarbonate based or potassium carbonate based or some other chemical (BC powder).

2.2.6 *Foam Extinguisher* — Hand operated extinguisher, capacity approximately 9 l, for generating small quantities of foam.

2.2.6.1 *Mechanical foam extinguisher* — In this, pre-mixed foam solution from aqueous film forming foam (AFFF) concentrate mixed with water is expelled after actuation by compressed air or nitrogen in the body of the extinguisher (stored pressure type), or by CO_2 gas liberated from a small cartridge (gas cartridge type). The foam is projected from a miniature self-aspirating foam branch pipe at the end of a short hose.

2.2.7 *Water Type (Stored Pressure) Extinguisher* — A hand operated extinguisher charged with water in which the contents are ejected by air pressure stored in the body of the extinguisher above the liquid. The capacity of the portable type is 9 l.

2.2.8 *Vaporising Liquid Extinguishers* — While BCF type vaporising liquid extinguishers are under phase-out due to their ozone depletion potential (ODP), other portable extinguishers with acceptable vaporising liquid gaseous extinguishants are now being introduced.

2.3 Hydrant System Equipment

2.3.1 *Branch Pipe, Universal* — A branch capable of providing fine spray and widespreading curtain of water in addition to a straight jet. It incorporates a shut-off position also.

2.3.2 *Coupling* — Any metal fitting for joining two lengths of hose, or any piece of equipment to a length of hose is termed a coupling.

2.3.2.1 *Hose delivery coupling* — An instantaneous coupling used for connecting two delivery hoses or any other hose fitting to a delivery hose.

2.3.2.2 *Instantaneous female coupling* — It is a single metal casting with a serrated or ribbed tail at one end for tying it into the hose. The other end has an annular lip for engaging the plungers in the female coupling.

2.3.2.3 *Instantaneous male coupling* — For hose connection, it is fitted with two pull-release spring-loaded plungers on one end, and the other end has a serrated or ribbed tail for (tying) it into the hose. The standard female coupling on pump and hydrant standpipe outlets are fitted with a single twist-release spring-loaded plunger.

2.3.2.4 *Double female coupling* — An instantaneous coupling having two male outlets in one, used when hoses are laid male to male.

2.3.2.5 *Double male coupling* — An instantaneous coupling having two female outlets in one, used when hoses are laid female to female.

2.3.3 *Hose* — A pipe used for conveying water, foam, etc.

2.3.4 *Delivery Hose* — It is used at the delivery side of the pump, which conveys water at pressures above that of atmosphere. The standard sizes are 38 mm, 50 mm, 63 mm and 70 mm.

2.3.5 *Hose Lined* — It consists of a jacket woven from vegetable fibres and having a rubber or plastic lining, a synthetic fibre and lining, or a combination of both natural and synthetic fibre. It is also called as 'Non-Percolating' delivery hose.

2.3.6 *Hose Unlined* — Woven from vegetable fibres, and allows percolation of water. There is also a modification known as Controlled Percolating Hose.

2.3.7 *Hydrant* — A fitting attached to a water main below street or pavement level. The hydrant incorporates a control valve and an outlet connection to which a standpipe or a delivery hose can be attached.

2.3.7.1 *Sluice valves type* — A type of underground fire hydrant consisting of one or two sluice valves with duct foot bend.

2.3.7.2 *Stand post type* — The hydrant fixed above the ground with male or female couplings.

2.3.8 *Hydrant Cover Key* — A tool used to lift the cover of certain types of hydrants.

2.3.9 *Hydrant Key and Bar* — Tools used to open up a hydrant (the bar) and to turn on the valve (the key).

2.3.10 *Hydrant Stand Pipe* — A pipe used to extend the outlet of the underground fire hydrant above ground level for connecting delivery or suction hose.

2.3.11 *Landing Valves* — Internal hydrants provided in buildings, including multi-storey buildings, connected to wet/dry risers.

2.3.12 *Monitor (Portable/Fixed/Oscillating)* — A special type of branch having large output capacity with lateral and vertical travel mounted on an appliance, or designed to operate unattended at ground level when it is known as a 'ground monitor'.

2.3.12.1 *Oscillating monitor* — A monitor which is capable of operating while automatically moving from side to side (oscillating). Examples are Oscillating Monitors fitted on bund walls of Refinery Tank Farms, Aircraft hangars, etc.

2.3.13 *Nozzle* — The piece of equipment which is screwed on to the end of the branch and controls the flow of the stream directed on to the fire. It can be of various sizes depending on the size of the orifice.

2.3.14 *Nozzle Spanner* — A spanner used to tighten the joint between nozzle and branch.

2.4 Sprinklers System Equipment

2.4.1 *Alarm Test Valve* — A valve through which water may be drawn to test the operation of the water motor fire alarm and/or of any associated electric fire alarm.

2.4.2 *Alarm Valve* — A check valve, of the wet, dry or composite type, that also initiates the water motor fire alarm when the sprinkler installation operates.

2.4.3 *Alarm Valve Pre-action* — An alarm valve suitable for a pre-action installation.

2.4.4 *Alarm Valve Recycling* — An alarm valve suitable for recycling installation.

2.4.5 *Arm Pipe* — A pipe, other than the last section of a range pipe, feeding a single sprinkler.

2.4.6 *Cut-off Sprinkler* — A sprinkler protecting a door or window between two areas only one of which is protected by the sprinkler.

2.4.7 *Distribution Pipe* — A pipe feeding either a range pipe directly or a single sprinkler on a non-terminal range pipe more than 300 mm long.

2.4.8 *Distribution Pipe Spur* — A distribution pipe from a main distribution pipe, to a terminal branched pipe array.

2.4.9 *Drencher* — A sprayer used to distribute water over a surface to provide protection against fire exposure.

2.4.10 *Drop* — A vertical pipe feeding a distribution or range pipe.

2.4.11 *Fastener* — A device for attaching pipe hanger components to a building structure or racking.

2.4.12 *Fire Door* — A door and frame of specified fire resistance complying with IS 3808.

2.4.13 *Fire Shutter* — A shutter and frame of specified fire resistance complying with IS 3808.

2.4.14 *Hanger* — An assembly for suspending pipework from the elements of building structure.

2.4.15 *Installation, Wet Pipe* — An installation in which the pipe work is always charged with water.

2.4.16 *Jockey Pump* — A small pump used to replenish minor water loss to avoid starting an automatic suction or booster pump unnecessarily.

2.4.17 *Range Pipe* — A pipe feeding sprinkler directly or via arm pipes of restricted length.

2.4.18 *Riser* — A vertical pipe feeding a distribution or range pipe above.

2.4.19 *Sprinkler Rosette* — A plate covering the gap between shank of the body or a sprinkler projecting through a suspended ceiling and the ceiling.

2.4.20 *Sling Rod* — A rod with a sling eye or screwed ends for supporting pipe clips, rings, band hangers etc.

2.4.21 *Sprinkler Ceiling or Flush Pattern* — A pendent sprinkler for fitting partly above, but with the temperature sensitive element below the lower plane of the ceiling.

2.4.22 *Sprinkler Concealed* — A recessed sprinkler with a cover plate that disengages when the heat is applied.

2.4.23 *Sprinkler Conventional Pattern* — A sprinkler that gives a spherical pattern of water discharge.

2.4.24 *Sprinkler Glass Bulb* — A sprinkler which opens when a liquid filled glass bulb bursts.

2.4.25 *Sprinkler Horizontal* — A sprinkler in which the nozzle directs the water horizontal.

2.4.26 *Sprinkler Intermediate* — A sprinkler installation below, and additional to the roof or ceiling sprinklers.

2.4.27 *Sprinkler Pendent* — A sprinkler in which the nozzle directs water downwards.

2.4.28 *Sprinkler, Roof or Ceiling* — A sprinkler protecting the roof or ceiling.

2.4.29 *Sprinkler Upright* — A sprinkler in which the nozzle directs the water upwards.

2.4.30 *Sprinkler Yoke Arms* — The part of the sprinkler that retains the heat sensitive elements in load bearing contact with the sprinkler head valve.

2.4.31 *Suction Pump* — An automatic pump supplying water to a sprinkler system from a suction tank.

2.4.32 *Supply Pipe* — A pipe connecting a water supply to a trunk main or the installation main control valve set(s); or a pipe supplying water to a private reservoir, suction tank or gravity tank.

2.5 Water Spray Equipment

2.5.1 *Spray Nozzle* — A normally open water discharging device which, when supplied with water under pressure will distribute the water in a special, directional pattern peculiar to the particular device.

Nozzles used for high velocity water spray systems are called 'Projectors' and nozzles used for medium velocity water spray systems are called 'Sprayers'. Both these nozzles are made in a range of orifice sizes with varying discharge angles so that dischage can be controlled for optimum protection.

2.5.2 *Deluge Valve* — A quick opening valve which admits water automatically to a system and is operated manually or electrically.

2.5.3 *Insulated Equipment* — Equipment structures vessels provided with insulation which for the expected duration of exposure, will protect steel from exceeding a temperature of 454°C (850 F) for structural members and 343°C (650 F) for vessels.

2.5.4 *Automatic Detection Equipment* — Equipment which will automatically detect one or more components directly related to combustion, such as heat, smoke, flame and other phenomenon and cause automatic actuation of alarm and protection equipment.

2.5.5 *Fire Barrier* — A fire barrier is a continuous wall or floor that is designed and constructed to limit the spread of fire.

2.5.6 *Range Pipe* — Pipes on which sprinklers are attached either directly or through short arm pipes, which do not exceed 300 mm in length.

2.5.7 *Distribution Pipe* — Pipes which directly feed the range pipes.

2.6 Foam System Equipment

2.6.1 *Foam Inlet Adaptor* — An adaptor fitted on fixed foam inlets to enable foam making branches to feed into a fixed installation.

2.6.2 *Foam Making Branch* — Any branch used for generating mechanical foam, irrespective of whether a knapsack tank or an inductor is being used. It is a means of aerating mixture of foam compound and water, and for projecting foam on to a fire.

2.6.3 *Foam Compound* — A liquid used in the

production of mechanical foam.

2.6.4 *Foam Generators* — Mechanical foam generators are equipment for generating foam and delivering it through a hose line.

2.6.5 *Foam Inline Inductor* — A means of inducing foam compound into the water stream on the delivery side before it reaches the foam generating devices.

2.6.6 *Foam Dam* — A portable reservoir to provide a continuous supply of foam compound/concentrate for extended foam production. At times foam trailors are also used for the same purpose.

2.6.7 *Foam Tender* — An appliance wholly or mainly used for carrying and operating foam-producing equipment.

2.6.8 *High Expansion Foam Generator* — A piece of equipment for generating high expansion foam.

2.6.9 *Multiple Inductor* — It is an apparatus working on the principles of the foam inductor for generating foam when connected to a pump. Even up to No.10 foam branch pipes can work with it.

2.6.10 *Pick-up Tube* — A tube through which foam concentrate is drawn into foam generating equipment.

2.7 Fire Alarm System Equipment

2.7.1 *Activation Device* — Device capable of being operated automatically or manually to initiate an alarm of fire, that is, detector, a manual call point or a pressure switch.

2.7.2 *Addressable System* — A system in which signals from each detector and/or call point are individually identified at the control panel.

2.7.3 *Automatic Fire Alarm System* — Fire alarm system comprising components and sub-systems required for detecting a fire, initiating an automatic alarm for fire and initiating other action as required.

2.7.4 *Automatic Fire Signal* — An alarm of fire originated from an automatic device given audibly or visibly or both.

2.7.5 *Control and Indicated Equipment* — Unit(s) containing the controls, relays, switches and associated circuits that are necessary to:

a) provide power,

b) receive signals from alarm initiating devices and transmit them to the fire alarm services and control for fire protection equipment, and

c) electrically supervise the system circuitry.

2.7.6 *Detector* — A part of an automatic detection system that contains at least one sensor which constantly or at frequent intervals monitors at least one suitable physical and/or chemical phenomenon, associated with fire, and that provides at least one corresponding signals to the control and indicating equipment. Detectors can initiate alarm through anyone of the outputs of combustion that is conductive or convective or radiant.

2.7.7 *Hooter or Horn Siren* — An electronic hooter or horn or electric bell associated with fire alarm system.

2.7.8 *Manual Call Point* — Manually operated device used to initiate an alarm signal.

2.7.9 *Mimic Panel* — A panel in which the floor/area plans of the premises is protected to reduced scale to enable easy identification of the sector/zone within the system.

2.7.10 *Sounder/Hooter* — An electronic hooter or horn or electric bell associated with the fire alarm system.

2.8 Gaseous System Equipment

2.8.1 *Automatic/Manual Switch* — A mean of converting the system from automatic to manual (manual override) and *vice-versa*.

2.8.2 *Container* — A cylinder or other vessels used to store the clean agent.

2.8.3 *Container Discharge Valve* — A valve directly connected to a container which when actuated releases the clean agent into the distribution piping.

2.8.4 *Control Device* — A device to control the sequence of events leading to the release of clean agent.

2.8.5 *Directional Valve* — A device for controlling the passage of the clean agent from a supply manifold and directed to pre-selected area(s) of protection.

2.8.6 *Discharge Inhibit Switch* — A manually operated switch that prevents the automatic discharge of the clean agent.

2.8.7 *Lock-off Valve* — A mechanically operated device which prevents a clean agent from being discharged through distribution pipework to the protected area.

2.8.8 *Operating Device* — Any component involved between actuation and release mechanisms.

2.8.9 *Safety Interlock* — A switch that monitors the occupation of the protected area and automatically inhibits the discharge of the clean agent when the area is occupied.

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This Indian Standard has been developed from Doc : No. CED 22 (7112).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110 002
Telephones : 2323 0131, 2323 3375, 2323 9402 *Website :* www.bis.org.in

Regional Offices :		*Telephones*
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Printed at New India Printing Press, Khurja, India